

Atmospheric Analysis & Consulting, Inc.

CLIENT : Eurofins
PROJECT NAME : MO DNR – Bridgeton LF
AAC PROJECT NO. : 171172
REPORT DATE : 8/11/2017


On August 9, 2017, Atmospheric Analysis & Consulting, Inc. received two (2) Six-Liter Silonite Canisters for TRS analysis by ASTM D-5504. Upon receipt, each sample was assigned a unique Laboratory ID number as follows:

Client ID	Lab No.	Initial Pressure (mmHg)
D1 (172358)	171172-101791	628.6
U1 (172359)	171172-101792	648.9

All of the analyses mentioned above were performed in accordance with AAC's ISO/IEC 17025:2005 and NELAP approved Quality Assurance Plan. For detailed information pertaining to specific EPA, NCASI, ASTM and SCAQMD accreditations (Methods & Analytes), please visit our website at www.aaclab.com.

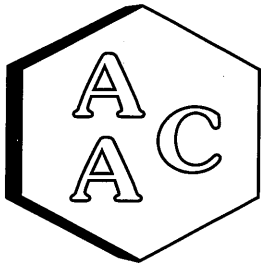
I certify that this data is technically accurate, complete, and in compliance with the terms and conditions of the contract. No problems were encountered during receiving, preparation, and/or analysis of these samples. The Laboratory Director or his/her designee, as verified by the following signature, has authorized release of the data contained in this hardcopy report.

If you have any questions or require further explanation of data results, please contact the undersigned.


Marcus Hueppe
Laboratory Director

This report consists of 4 pages.





Atmospheric Analysis & Consulting, Inc.

LABORATORY ANALYSIS REPORT


CLIENT : Eurofins
PROJECT NO. : 171172
MATRIX : AIR
UNITS : ppmV

SAMPLING DATE : 08/07/2017
RECEIVING DATE : 08/09/2017
ANALYSIS DATE : 08/10/2017
REPORT DATE : 08/11/2017

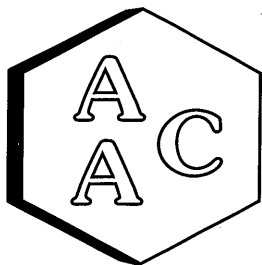
Total Reduced Sulfur Compounds Analysis by ASTM D-5504

Client ID	D1 (172358)	U1 (172359)
AAC ID	171172-101791	171172-101792
Canister Dil. Fac.	1.5	1.4
Analyte	Result	Result
Hydrogen Sulfide	< 0.015	< 0.014
Carbonyl Sulfide	< 0.015	< 0.014
Sulfur Dioxide	< 0.015	< 0.014
Methyl Mercaptan	< 0.015	< 0.014
Ethyl Mercaptan	< 0.015	< 0.014
Dimethyl Sulfide	< 0.015	< 0.014
Carbon Disulfide	< 0.015	< 0.014
Isopropyl Mercaptan	< 0.015	< 0.014
tert-Butyl Mercaptan	< 0.015	< 0.014
n-Propyl Mercaptan	< 0.015	< 0.014
Methylethylsulfide	< 0.015	< 0.014
sec-Butyl Mercaptan	< 0.015	< 0.014
Thiophene	< 0.015	< 0.014
iso-Butyl Mercaptan	< 0.015	< 0.014
Diethyl Sulfide	< 0.015	< 0.014
n-Butyl Mercaptan	< 0.015	< 0.014
Dimethyl Disulfide	< 0.015	< 0.014
2-Methylthiophene	< 0.015	< 0.014
3-Methylthiophene	< 0.015	< 0.014
Tetrahydrothiophene	< 0.015	< 0.014
Bromothiophene	< 0.015	< 0.014
Thiophenol	< 0.015	< 0.014
Diethyl Disulfide	< 0.015	< 0.014
Total Unidentified Sulfur	< 0.015	< 0.014
Total Reduced Sulfurs	< 0.015	< 0.014

All unidentified compound's concentrations expressed in terms of H₂S (TRS does not include COS and SO₂)
Sample Reporting Limit (SRL) is equal to Reporting Limit x Canister Dil. Fac. x Analysis Dil. Fac.


Marcus Hueppe
Laboratory Director





Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report ASTM D-5504

Date Analyzed: 8/10/2017
Analyst: ZB
Units: ppbV

Instrument ID: SCD#10
Calb. Date: 7/27/2017

Opening Calibration Verification Standard

528.25 ppbV H₂S (SS1032)

H ₂ S	Resp. (area)	Result	% Rec *	% RPD ****
Initial	4644	533	100.9	0.2
Duplicate	4659	535	101.2	0.2
Triplicate	4652	534	101.1	0.0

491 ppbV MeSH (SS1032)

MeSH	Resp. (area)	Result	% Rec *	% RPD ****
Initial	4433	497	101.1	0.8
Duplicate	4389	492	100.1	0.2
Triplicate	4368	489	99.7	0.7

523 ppbV DMS (SS1032)

DMS	Resp. (area)	Result	% Rec *	% RPD ****
Initial	5406	528	100.9	0.2
Duplicate	5395	527	100.7	0.0
Triplicate	5387	526	100.5	0.2

Method Blank

Analyte	Result
H ₂ S	<PQL
MeSH	<PQL
DMS	<PQL

Duplicate Analysis

Sample ID 171173-101796

Analyte	Sample Result	Duplicate Result	Mean	% RPD ***
H ₂ S	190985.1	195734.0	193359.5	2.5
MeSH	<PQL	<PQL	0.0	0.0
DMS	<PQL	<PQL	0.0	0.0

Matrix Spike & Duplicate

Sample ID 171173-101796 x400

Analyte	Sample Conc.	Spike Added	MS Result	MSD Result	MS % Rec **	MSD % Rec **	% RPD ***
H ₂ S	483.4	264.1	730.1	746.3	97.7	99.8	2.2
MeSH	<PQL	245.5	243.4	247.8	99.1	100.9	1.8
DMS	<PQL	261.5	254.8	271.2	97.4	103.7	6.2

Closing Calibration Verification Standard

Analyte	Std. Conc.	Result	% Rec **
H ₂ S	528.3	530.9	100.5
MeSH	491.0	476.6	97.1
DMS	523.0	528.8	101.1

* Must be 95-105%, ** Must be 90-110%, *** Must be < 10%, **** Must be < 5% RPD from Mean result.

H₂S: PQL = 10.0 ppbV, MDL = 1.51 ppbV

MeSH: PQL = 10.0 ppbV, MDL = 1.48 ppbV

CS₂: PQL = 10.0 ppbV, MDL = 1.44 ppbV


 Marcus Hueppe
 Laboratory Director





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AAC Project No. 171172 Page 1 of 1

CHAIN OF CUSTODY/ ANALYSIS REQUEST FORM

Client Name <u>MO DNR</u>		Project Name <u>Bridgeton LF</u>				Analysis Requested				Send report:																	
Project Mgr (Print Name) <u>Michael Paris</u>		Project Number				<table border="1"> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>																				Attn: _____	
Sampler's Name (Print Name) <u>Teresa Therapy</u>		Sampler's Signature <u>[Signature]</u>								Phone#: _____																	
AAC Sample No.	Date Sampled	Time Sampled	Sample Type	Client Sample ID/Description	Type/No. of Containers																						
<u>Can # 994</u>	<u>8/7/17</u>	<u>1050-1130</u>	<u>Summ-Timed</u>	<u>D1 (172358)</u>	<u>-30 -6</u>					<u>X</u>	<u>101791</u>	Send invoice to: _____															
<u>Can # 822</u>	<u>8/7/17</u>	<u>1100-1140</u>	<u>Summ-Timed</u>	<u>V1 (172359)</u>	<u>-30 -5</u>					<u>X</u>	<u>101792</u>	Attn: _____															
												P.O. # _____															
										Turnaround Time																	
										24 - 48 Hr _____ 72 Hr _____																	
										5 Day <input checked="" type="checkbox"/> Normal _____																	
										Other (Specify) _____																	
Special instructions/remarks: <u>Shipped via UPS.</u> <u>Tracking # 1Z2040160290789499</u>																											
Relinquished by (Signature): <u>[Signature]</u>		Print Name: <u>Teresa Therapy</u>		Date/Time <u>8/9/17 MCO</u>		Received by (signature): <u>[Signature]</u>				Print Name																	
Relinquished by (Signature): <u>[Signature]</u>		Print Name:		Date/Time		Received by (signature): <u>[Signature]</u>				Print Name <u>8/9/17 1030</u>																	

2x CANS 4x FLOWS UPS